Claims

What is claimed is:

5   1.   A method of tuning a Power-On-Reset (POR) register in a data storage device, the method

comprising:

determining a tuned value for the POR register using feedback from the data storage

device; and

storing the tuned value on a storage medium of the data storage device.

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2.   The method of claim 1, wherein the tuned value is stored in a list comprising an address

of the POR register to be patched and the tuned value.

3.   The method of claim 1, wherein the tuned value is stored in a system sector of the storage

15   medium of the data storage device.

4.   The method of claim 1, wherein tuning is performed during a certification process for the

data storage device.

20   5.   The method of claim 4, wherein tuning is performed during a read/write parameter tuning

of the certification process.

6.   The method of claim 1, further comprising storing an indication of whether tuned values

have been determined.

7.   The method of claim 6, wherein storing an indication of whether tuned values have been determined comprises storing a null value in a first address in the list stored in the one or more system sectors of the data storage device if no tuned values have been determined.

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8.   The method of claim 6, wherein storing an indication of whether tuned values have been determined comprises setting a flag in a system sector of the data storage device if at least one tuned value has been determined.

9.   A method of starting a data storage device when power is applied to the data storage

device, the method comprising:

loading a reserve sector map into a memory of the data storage device from a storage

medium in the data storage device;

5   loading system sectors into the memory of the data storage device from the storage

medium in the data storage device; and

patching a Power-On-Reset (POR) register using one or more tuned values stored in a list

in one or more system sectors, the list comprising an address of the POR register

to be patched and the tuned value.

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10.   The method of claim 9, wherein patching a Power-On-Reset (POR) register comprises:

fetching the address of the POR register to be patched and the tuned value from the list in

one or more system sectors of the storage medium;

determining whether the address of the POR register to be patched is a valid register

15   address; and

responsive to the address of the POR register to be patched being a valid register address,

setting the POR register to be patched to the tuned value.

11.   The method of claim 9, further comprising prior to patching a POR register determining

20   whether patching should be performed.

12.   The method of claim 11, wherein determining whether patching should be performed

comprises determining whether a first address in the list stored in the one or more system

sectors of the data storage device is a null value.

13.   The method of claim 11, wherein determining whether patching should be performed comprises determining whether a flag in a system sector of the data storage device is set.

5   14.   The method of claim 10, further comprising initializing an entry pointer indicating a position in the list in one or more system sectors of the storage medium prior to fetching the address of the POR register to be patched and the tuned value from the list.

15.   The method of claim 14, further comprising incrementing the entry pointer after setting

10   the POR register to be patched to the tuned value.

16.   The method of claim 14, wherein determining whether the address of the POR register to be patched is a valid register address comprises comparing an address from the list indicated by the entry pointer to a range of valid register addresses.

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17.   A data storage device comprising:

a storage medium;

a microprocessor; and

a memory, the memory having stored therein a start-up routine that, when executed by

the microprocessor, loads a reserve sector map into the memory from the storage

medium, loads system sectors into the memory from the storage medium, and

patches a Power-On-Reset (POR) register using one or more tuned values stored

in a list in one or more system sectors, the list comprising an address of the POR

register to be patched and the tuned value.

18.   The data storage device of claim 17, wherein the start-up routine further:

fetches the address of the POR register to be patched and the tuned value from the list in

one or more system sectors of the storage medium;

determines whether the address of the POR register to be patched is a valid register

address; and

responsive to the address of the POR register to be patched being a valid register address,

sets the POR register to be patched to the tuned value.

19.   The data storage device of claim 17, wherein the start-up routine prior to patching a POR

register determines whether patching should be performed.

20.   The data storage device of claim 19, wherein the start-up routine determines whether

patching should be performed by determining whether a first address in the list stored in

the one or more system sectors of the data storage device is a null value.

21.   The data storage device of claim 19, wherein the start-up routine determines whether patching should be performed by determining whether a flag in a system sector of the data storage device is set.

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22.   The data storage device of claim 18, wherein the start-up routine initializes an entry pointer indicating a position in the list in one or more system sectors of the storage medium prior to fetching the address of the POR register to be patched and the tuned value from the list.

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23.   The data storage device of claim 22, wherein the start-up routine increments the entry pointer after setting the POR register to be patched to the tuned value.

24.   The data storage device of claim 22, wherein the start-up routine determines whether the

15   address of the POR register to be patched is a valid register address by comparing an address from the list indicated by the entry pointer to a range of valid register addresses.